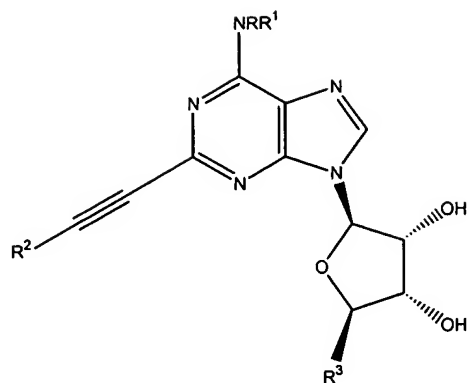


WHAT IS CLAIMED IS:

1. A compound of the formula:



- 5 wherein:

R is hydrogen or lower alkyl;

$\text{R}^1$  is optionally substituted lower alkoxy or optionally substituted cycloalkyloxy;

$\text{R}^2$  is hydrogen, optionally substituted alkyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, or trialkylsilyl; and

- 10  $\text{R}^3$  is hydroxymethyl or  $\text{R}^4\text{R}^5\text{NC(O)-}$ , where  $\text{R}^4$  and  $\text{R}^5$  are independently chosen from hydrogen, optionally substituted alkyl or optionally substituted cycloalkyl.

2. The compound of claim 1, wherein  $\text{R}^3$  is hydroxymethyl.

- 15 3. The compound of claim 2, wherein R is hydrogen.

4. The compound of claim 3, wherein  $\text{R}^1$  is methoxy, ethoxy, n-propoxy, isopropoxy, or cyclopropoxy.

- 20 5. The compound of claim 4, wherein  $\text{R}^1$  is methoxy.

6. The compound of claim 5, wherein  $\text{R}^2$  is phenyl, namely (4S,2R,3R,5R)-5-(hydroxymethyl)-2-[6-(methoxyamino)-2-(2-phenylethynyl)purin-9-yl]oxolane-3,4-diol.

7. The compound of claim 5, wherein R<sup>2</sup> is 4-methylphenyl, namely (4S,2R,3R,5R)-5-hydroxymethyl-2-[6-(methoxyamino)-2-[(2(4-methylphenyl)ethynyl]purin-9-yl]oxolane-3,4-diol.

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8. The compound of claim 5, wherein R<sup>2</sup> is 4-fluorophenyl, namely (4S,2R,3R,5R)-2-{2-[2-4-fluorophenyl]ethynyl}-6-(methoxyamino)purin-9-yl}-5-(hydroxymethyl)oxolane-3,4-diol.

9. The compound of claim 5, wherein R<sup>2</sup> is 4-pentylphenyl, namely (4S,2R,3R,5R)-5-hydroxymethyl-2-{6-(methoxyamino)-2-[2-(4-pentylphenyl)ethynyl]purin-9-yl}oxolane-3,4-diol.

10. The compound of claim 5, wherein R<sup>2</sup> is 3-trifluoromethylphenyl, namely, (4S,2R,3R,5R)-5-(hydroxymethyl)-2-[6-(methoxyamino)-2-[(2(3-trifluoromethyl)phenyl)ethynyl]purin-9-yl]oxolane-3,4-diol.

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11. The compound of claim 5, wherein R<sup>2</sup> is 4-methoxyphenyl, namely (4S,2R,3R,5R)-5-(hydroxymethyl)-2-[6-(methoxyamino)-2-[(2(4-methoxyphenyl)ethynyl]purin-9-yl]oxolane-3,4-diol.

12. The compound of claim 5, wherein R<sup>2</sup> is 4-cyanomethylphenyl, namely 6-{9-2-[4-(2-{9-[4S,2R,3R,5R]-3,4-dihydroxy-5-(hydroxymethyl)oxolan-2-yl]-6-(methoxyamino)-purin-2-yl}ethynyl)phenyl]ethanenitrile.

13. The compound of claim 5, wherein R<sup>2</sup> is 4-acetylphenyl, namely, 1-[4-(2-{9(4S,2R,3R,5R)-3,4-dihydroxy-5-(hydroxymethyl)oxolane-2-yl}ethynyl)phenyl]ethan-1-one.

14. The compound of claim 5, wherein R<sup>2</sup> is butyl, namely (4S,2R,3R,5R)-2-{2-[2-hex-1-ynyl-6-methoxyamino)purin-9-yl]-5-(hydroxymethyl)oxolane-3,4-diol.

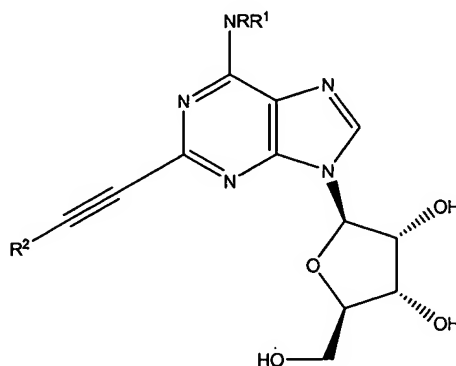
15. The compound of claim 5, wherein  $R^2$  is 2-hydroxypropyl, namely (4S,2R,3R,5R)-5-(hydroxymethyl)-2-[-2-(4-hydroxypent-1-ynyl)-6-(methoxyamino) purin-9-yl]-5-(hydroxymethyl)oxolane-3,4-diol.
- 5 16. The compound of claim 5, wherein  $R^2$  is 2-hydroxycyclohexyl, namely (4S,2R,3R,5R)-5-(hydroxymethyl)-2-[-2-(2-hydroxycyclohexyl-1-ynyl)-6-(methoxyamino) purin-9-yl]-5-(hydroxymethyl)oxolane-3,4-diol.
17. The compound of claim 5, wherein  $R^2$  is 2-pyridyl, namely (4S,2R,3R,5R)-5-  
10 (hydroxymethyl)-2-[6-(methoxyamino)-2-[(2-(2-pyridyl)ethynl) purin-9-yl]oxolane-3,4-diol.
18. The compound of claim 1, wherein  $R^3$  is  $R^4R^5NC(O)-$ .
19. The compound of claim 18, wherein R is hydrogen.
- 15 20. The compound of claim 19, wherein  $R^1$  is methoxy.
21. The compound of claim 20, wherein  $R^4$  is hydrogen and  $R^5$  is methyl or ethyl.
- 20 22. The compound of claim 21, wherein  $R^2$  is optionally substituted phenyl or optionally substituted pyridyl.
23. The compound of claim 22, wherein  $R^2$  is phenyl, 4-methylphenyl, 4-fluorophenyl, 3-trifluoromethylphenyl, 4-methoxyphenyl, 2-pyridyl, 3-pyridyl, or 4-pyridyl.
- 25 24. A method of treating a disease state by stimulating adenosine  $A_3$  receptors, comprising administering to a mammal in need thereof a therapeutically effective dose of a compound of claim 1.
- 30 25. The method of claim 24, wherein the disease state is cancer.

26. The method of claim 24, wherein the disease state is neutropenia.

27. A pharmaceutical composition comprising at least one pharmaceutically acceptable excipient and a therapeutically effective amount of a compound of claim 1.

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28. A process for preparing a compound of the formula:



wherein:

R is hydrogen or lower alkyl;

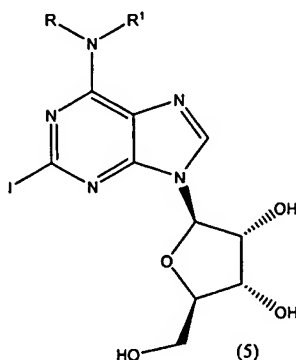
10 R¹ is optionally substituted lower alkoxy or optionally substituted cycloalkyloxy;

R² is hydrogen, optionally substituted alkyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, or trialkylsilyl; and

R³ is hydroxymethyl or R⁴R⁵NC(O)-, where R⁴ and R⁵ are independently chosen from hydrogen, optionally substituted alkyl or optionally substituted cycloalkyl;

15 comprising:

contacting a compound of the formula



with an amine of the formula  $RR^1NH$   
wherein R and  $R^1$  are as defined above.

29. The process of claim 28, wherein the reaction is conducted in tetrahydrofuran at room  
5 temperature for about 4 days.

30. The process of claim 29, wherein the reaction is conducted in the presence of a base.

31. The process of claim 30, wherein the base is triethylamine.

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